NEW INTERNAL LIGURIDE UNITS IN THE NORTHERN APENNINES (NW ITALY) AND THEIR METAMORPHIC GRADE.

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The Northern Apennines represent a typical fold-and-thrust belt made up of several tectonic units belonging to different paleogeographic and tectonic domains. Among these, the Internal Liguride Units, consisting of ophiolite sequences and their associated sedimentary cover, are interpreted as remnants of the Western Tethys oceanic litosphere. During pre-Oligocene orogenesis, this lithosphere was deformed, metamorphosed and tectonically disrupted into several units that have been displaced from west to east. Till lately only five units were recognized, all of them cropping out in the far North-Western sector of the mountain chain, close to the boundary with the Alps. A most recent structural survey of the Valpolcevera-Vallescrivia area gave results pointing to the existence of four more tectonics units: Bric Montaldo, Serra, Vallecalda and Ciaè units. The metamorphism of these new units is here investigated in metapelites through the analysis of mineral assemblages, "crystallinity", polytypism and b_0 of illite, as well as the "crystallinity" of chlorite. All metamorphic indicators point to thermal conditions ranging from late-stage diagenesis to very-low grade metamorphism (anchizone) and to baric conditions covering the low- and the intermediate-pressure facies of Miyashiro (1961). Within these overall conditions, an evident metamorphic zonation is related with the different positions of the units in the tectonic pile when the metamorphic climax occurred.